REMARKS

Claims 1-7 are pending. Claims 1-5 have been amended. Claims 10-12 have been added. No new matter has been added by way of this amendment. Reconsideration of the application is respectfully requested.

Claims 2-5 stand rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In response to this ground of rejection, Applicants have amended the claims in a matter that is believed to address each specific rejection cited in the Office Action. Accordingly, reconsideration and withdrawal of the rejections are respectfully requested.

The drawings have been objected to by the Examiner "as failing to comply with 37 C.F.R. 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: 10 and 11."

With respect to the objection to the drawings, "a melt extruder" is designated by reference numeral 10 on page 8, line 13 of the specification, and "a T-die" is designated by reference numeral 11 on page 8, line 16 of the specification. Accordingly, reconsideration and withdrawal of the objections are respectfully requested.

Claims 1, 6, and 7 stand rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,277,104 B1 to *Lasko* et al. Claim 1 also stands rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,853,846 to *Clark* et al. Claims 1, 2, and 5 stand rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,019,062 to *Ryan* et al.

Claims 2-5 stand rejected under 35 U.S.C. 103(a) as being unpatentable over the *Lasko* et al. patent. Claims 2-5, and 7 stand rejected under 35 U.S.C. 103(a) as being unpatentable over the *Clark* et al. Lastly, claims 4 and 7 stand rejected under 35 U.S.C. 103(a) as being unpatentable over *Ryan* et al. These several rejections are traversed.

Claim 1 has been amended to include the limitation that "a part of the particles are exposed outside the surface of the top sheet," i.e., on a body facing surface of the top sheet. As a result of this feature, both protrusions and fine convex portions are exposed on the body facing surface of the top sheet, and the height of each protrusion from the surface is larger than that of each fine convex portion.

U.S. Patent No. 6,277,104 B1 discloses an air permeable, substantially liquid impermeable barrier structure that has a porous layer having opposing sides, the porous layer having: a substrate having pores, which extend between the opposing sides that correspond to the opposing sides of the porous layer (see col. 4, lines 30-35). However, this reference fails to teach that both protrusions and fine convex portions are "exposed on a body facing surface of a top sheet," and that the height of each protrusion from the surface is larger than that of each fine convex portion, as enumerated in amended claim 1.

U.S. Patent No. 5,853,846 to *Clark* et al. discloses a conformable magnetic article for underlayment beneath a traffic-bearing surface which sends a magnetic signal to a sensor traveling over the traffic-bearing structure. According to this reference, the magnetic article comprises at least one conformable magnetic layer comprising a binder and a sufficient amount of magnetic particles that are dispersed within the binder to provide a magnetic signal through the traffic-bearing structure to a sensor (see *Abs.*). However, this reference fails to cure the deficiency of the *Lasko* et al. patent. Specifically, *Clark* et al. fails to disclose that both

protrusions and fine convex portions are "exposed on a body facing surface of a top sheet," and that the height of each protrusion from the surface is larger than that of each fine convex portion, as set forth in amended independent claim 1.

U.S. Patent No. 5,019,062 to *Ryan* et al. relates to a bicomponent material which allows liquids to pass in a first direction, but substantially prevents the liquids from passing in the opposite direction. According to this patent, the material also exposes an attempt by any gas to pass in the direction opposite to that of the liquid transmission to an odor control lamina (see *Abs.*). However, this reference also fails to cure the deficiency of the *Lasko* et al. patent. Specifically, *Ryan* et al. fails to disclose that both protrusions and fine convex portions are "exposed on a body facing surface of a top sheet," and that the height of each protrusion from the surface is larger than that of each fine convex portion, as set forth in amended independent claim 1.

In sum, none of the cited references, neither individually or in combination, teach that "a part of the particles are exposed outside the surface of the top sheet, i.e., on a body facing surface of the top sheet," as set forth in amended claim 1. In view of the foregoing, reconsideration and withdrawal of the rejections are respectfully requested.

New independent claim 11 includes the limitations of claim 1 and that "the particulate materials are inorganic with inorganic particles" (see page 6 of the specification). By this configuration, the particulate material of the present invention is not deformed under heat and is harmless to the human body. On the contrary, the particles disclosed in the *Lasko* et al. patent are adhered to a porous substrate by being sintered and then flattened. Accordingly, claim 11 is patentable over the cited references, whether considered separately or in combination.

New independent claim 12 includes the limitations of claim 1 and that "micropores 5 are formed around the particles 3." In this case, the micropores can be formed only by the method of mixing the particulate material into the melted resin, followed by melt-extruding the resulting mixture, and then by biaxially or monoaxially stretching the sheet material. By forming the micropores around each particulate material, it is possible to infiltrate the excretion that remains on the top sheet through the micropores to effectively prevent the particulate material from being buried in excretions. Such a feature is not disclosed in the cited references, whether considered individually or in combination. Accordingly, claim 12 is patentable over the cited references.

In view of the patentability of independents claims 1, 11, and 12 for the reasons set forth above, dependent claims 2-7 and 10 are also patentable over the cited references.

In light of the foregoing remarks, this application should be in condition for allowance. Early passage of this case to issue is respectfully requested. However, if there are any questions regarding this Response, or the application in general, a telephone call to the undersigned would be appreciated since this expedite the prosecution of the application for all concerned.

Respectfully submitted,

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EXPRESS MAIL CERTIFICATE

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Docket No: 2309/0I213

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Satoshi MIZUTANI et al. Confirmation No.: 6716

Serial No.: 09/771,131 Art Unit: 1772

Filed: January 26, 2001 Examiner: CHEVALIER, Alicia Ann

For: TOP SHEET FOR ABSORBENT ARTICLES, AND METHOD FOR PRODUCING IT

MARK-UP FOR AMENDMENT OF OCTOBER 21, 2002
PURSUANT TO §1.121

Assistant Commissioner for Patents
Washington, DC 20231

October 21, 2002

IN THE CLAIMS:

1. (Amended) A top sheet including a number of perforations for covering a liquid-receiving surface of an absorbent article, wherein;

the top sheet is formed of a thermoplastic resin containing a particulate material, and

the top sheet is provided with fine convex portions [of] defined by exposing a part of the particulate material on [the] a body facing surface [thereof] of the top sheet and a plurality of protrusions extending from the body facing surface [thereof], and the height of each protrusion from the

body facing surface is larger than that of each fine convex portion therefrom.

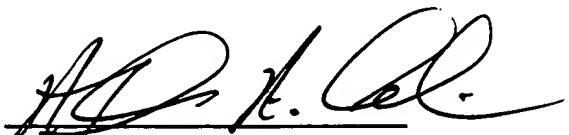
2. (Amended) The top sheet as set forth in claim 1, wherein the particulate material has a mean particle size [falling] in a range between 0.1 μm and 30 μm.

3. (Amended) The top sheet as set forth in claim 2, wherein the thermoplastic resin contains at least two [types] different sizes of particulate materials that differ from each other in the mean particle size by at least 9 μm.

4. (Amended) The top sheet as set forth in claim 3, wherein the amount of the particulate material [falls] is in a range between 20 and 150 parts by weight relative to 100 parts by weight of the thermoplastic resin.

5. (Amended) The top sheet as set forth in claim 1, wherein the mean height of the protrusions from the surface of the top sheet [falls] is in a range between 0.05 and 1.0 mm.

Respectfully submitted,



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COMPLETE SET OF PENDING CLAIMS

1. (Amended) A top sheet including a number of perforations for covering a liquid-receiving surface of an absorbent article, wherein;

the top sheet is formed of a thermoplastic resin containing a particulate material, and

the top sheet is provided with fine convex portions defined by exposing a part of the particulate material on a body facing surface of the top sheet and a plurality of protrusions extending from the body facing surface, and the height of each protrusion from the body facing surface is larger than that of each fine convex portion therefrom.

2. (Amended) The top sheet as set forth in claim 1, wherein the particulate material has a mean particle size in a range between 0.1 μm and 30 μm.

3. (Amended) The top sheet as set forth in claim 2, wherein the thermoplastic resin contains at least two different sizes of particulate materials that differ from each other in the mean particle size by at least 9 μm.

4. (Amended) The top sheet as set forth in claim 3, wherein the amount of the particulate material is in a range between 20 and 150 parts by weight relative to 100 parts by weight of the thermoplastic resin.

5. (Amended) The top sheet as set forth in claim 1, wherein the mean height of the protrusions from the surface of the top sheet is in a range between 0.05 and 1.0 mm.

6. The top sheet as set forth in claim 1, which further includes micropores that allow water vapor to pass therethrough.

7. The top sheet as set forth in claim 1, wherein the protrusions are formed by mechanically stretching the top sheet.

10. (New) The top sheet as set forth in claim 1, wherein the particulate material is made of inorganic particles of at least one type selected from a group consisting of titanium oxide, calcium carbonate, soda ash, gypsum, calcium sulfate, barium sulfate, sodium sulfate, magnesium carbonate, magnesium sulfate, clay, calcium phosphate, silicic anhydride, carbon and talc.

11. (New) A top sheet including a number of perforations for covering a liquid-receiving surface of an absorbent article, wherein;

the top sheet is formed of a thermoplastic resin containing a particulate material of inorganic particles, and

the top sheet includes fine convex portions of the particulate material partially exposed on a body facing surface of the top sheet and a plurality of protrusions extending from the body facing surface, and the height of each

protrusion from the body facing surface is larger than that of each fine convex portion therefrom.

12. (New) A top sheet including a number of perforations for covering a liquid-receiving surface of an absorbent article, wherein;

the top sheet is formed of a thermoplastic resin containing a particulate material, and

the top sheet includes micropores formed around the particulate material, fine convex portions of the particulate material on a body facing surface of the top sheet, a plurality of protrusions extending from the body facing surface, and the height of each protrusion from the body facing surface is larger than that of each fine convex portion therefrom.